

CONSUMER DECISION MODEL FOR THE USE OF RAILWAY IN NEW NORMAL

Diyah Permata Sari^{1*}, Shafira Mandu Dwi Jayakusuma², Muhammad Iqbal Firdaus³, Erni Pratiwi⁴
^{1,2,3,4} Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia
Corresponding Author: divahshafira8@gmail.com

Abstract. This study aims to test a consumer decision model to travel in the new normal era through factors that encourage consumers to travel. This study used Theory of Planned Behavior (TPB) as a foundation in making the research model. The testing and application of TPB in this study emphasized the measurement of the influence of four variables, namely attitude, subjective norm, perceived behavior, and intention moderated by travel constraints. The data was collected through a structured questionnaire distributed via Google forms, and 178 sets of respondent data were collected using convenience sampling. The data was analyzed by using regression analysis and moderated regression analysis to measure the moderation power of the travel constraint variable. The results indicated that factors namely attitude, subjective norm, perceived behavior had significant and positive relation with behavioural intention. As themoderating variable, travel constraints showed negative relation through interactions, with subjective norms on intentions. This research provides the benefits of knowledge for academics and business people which enable them to further explore the aspects discussed as well as the effects that arise on the components of the TPB, so that they can also be used to design promotions.

Keywords: attitude, subjective norm, perceived behavior control, travel constraints, behavior intentions, theory of planned behavior

Introduction

The corona virus pandemic (Covid-19) has driven changes in economic and political policies in all countries in the world. Similar with perspectives, attitudes and behavior of the people will also change. Studies in consumer behaviors are to investigate how a person comes to a decision by considering what she or he has that can be exchanged to acquire a particular action (Emilien, Weitkumat, & Lüdicke, 2017).

Theory of Planned Behavior (TPB) developed by Ajzen (1991) is extensively applied in consumer behavior research as an method to predict intention and behavior. TPB reveals three independent conceptual determinants of intentions consisting of attitudes toward behavior, subjective norms, and perceived behavioral control. To fulfill the needs of the community to do their activities, the existence of transportation means is very important. Public transportation that is cheap and easily accessible by the public is the railway service. As a state-owned enterprise, PT Kereta Api Indonesia (KAI) is demanded to provide excellent service to its users. In the midst of the Covid-19 pandemic, PT KAI had started to reoperate the regular long distance (KAJJ) and local service. A number of health protocols during the new normal era had been prepared to minimize the spread of corona virus (Covid-19).

The health protocol was expected to be conformed by passengers at the station or while traveling. The aims of PT KAI were to provide quality services in order to support the fulfillment of sustainable transportation indicators and to encourage the community to use public transportation modes, especially trains, rather than using their private transports.

Based on the problems mentioned above, we conducted research that focused on one of the public transportations in Indonesia, which was trains. This study aims to examine the consumer

decision model in the use of trains in the new normal using the TPB framework. It can also see what factors making consumers keep using the railway service.

Theory of Planned Behavior

TPB is developed from of Theory of Reasoned Action (TRA) by Ajzen. TRA explains that one's intention towards behavior is constructed by two key reasons, namely attitude and subjective norms (Schifter & Ajzen, 1985), while in TPB one more factor is added, which is perceived behavioral control (Ajzen, 2015). This theory seeks to test if there is an influence of an independent relationship between an individual's self identity with intention or behavior plan.

Attitude

These findings are consistent with research on the relationship between attitudes and behavior, which also find that specific behaviors are better predictors of further action than the more general evaluative tendencies (Schifter & Ajzen, 1985). The explanation is as follows: a) Attitude has a direction, meaning that the attitude is divided into two directions of agreement, whether to agree or disagree. b) Attitude has intensity, meaning that the depth or strength of attitude towards something is not necessarily the same although the direction may not be different. c) Attitude has flexibility, meaning approval or disapproval of an object attitude can be about only a few and very specific, but can include many aspects that exist in the attitude object. d) Attitudes also have consistency, meaning that the appropriateness of the statement of attitude is expressed with its response to the object of the attitude. e) Attitudes that have spontaneity, meaning that it involves how far the individual's readiness to express his attitude spontaneously. According to (Ajzen, 1986), there are three components in attitude, : a) Cognitive, which reflects the perception and thinking about the object of attitude. b) Affection is a feeling or evaluation of the object, including feelings and evaluation (attitude). c) Conation, the intention to behave displayed on the object. Recent research on attitude-behavior relationships has been carried out within the framework of "reasonable theory of action" (Ajzen, 1986). In an effort to go beyond pure volitional actions, (Schifter & Ajzen, 1985) have proposed "planned behavior theory" which broadens the theory of reasoned action by incorporating the concept of behavioral control.

Subjective Norm

The theory of reasoned action also deals with subjective attitudes and norms, which, in the concluding examination, control intentions and actions. (Ajzen, 1986). According to (Tanakinjal, 2012), subjective norms have two indicators, which consist of: a) Behavioral belief, subjective norms that lead to consumer confidence in how to respond to a thing. b) Normative beliefs are subjective norms that cause confidence in consumers about what should or should not be done. Consumers, who believe that most people do something they consider important, will follow and do that as well. Components of subjective norms according to (Smith, 2007) are: a) Injunctive norms: Injunctive norms relate to perceived social pressure from others who are considered important to conduct a behavior. b) Descriptive norms: Descriptive norms reflect one's perception of other people's behavior. c) Moral norms: Moral norms can be defined as internalizing individual moral rules. Moral norms emphasize on building personal feelings of responsibility, rather than directly feeling social pressure

Perceived Behavioral Control

Theory of Reasoned Action (TRA) predicts behavior that people perceive as something controlling them. TPB said that an individual who intends to perform a behavior is determined by the control of perceived behavior and subjective attitudes and norms, which creates a conceptual framework that is useful for predicting and explaining human behavior (Ajzen, 2013).

Perceived behavioral control assesses an individual's awareness that how resourceful he/she can regulate features that may allow or assure the activities essential to cope with a definite condition. It is expected that PBC is measured to be a function of available control principles of individuals' perceived necessities of the resources and chances to accomplish a specific conduct on the importance foundation (Verma & Chandra, 2018).

Intention

Fishbein & Ajzen (2014) defines intention as the plan of actions which will be realized in the form of action if the time and opportunity allow. Based on the research conducted by (Bakar, Yakasai, Jamaliah, & Jusoh, 2015) the theory of planned behavior revealed three factors of intentions: a) Attitudes toward behavior, referring to the extent to which a person has an evaluation or judgment that is favorable or unacceptable from the behavior in question. b) Social factors called subjective norms; it refers to the perceived social pressure to do or not to do the behavior. c) Intentions are the level of perceived behavioral control, when an individual feels confident that whatever is done now is a perception that is controlled by the individual himself.

Travel Constraint

(Kazeminia, Chiappa, & Jafari, 2013) identify important factors related to travel constraints for the decision-making process. Constraints on the trip are factors that limit the development of the trip and limit the potential development of the destination destination. Because understanding these obstacles is very important for planning to travel, destinations on the journey must develop and implement strategies to overcome perceived obstacles (Chen, Chen, & Okumus, 2013).

Research Model and Hypothesis

Based on the theretical framework, we developed the following research model.

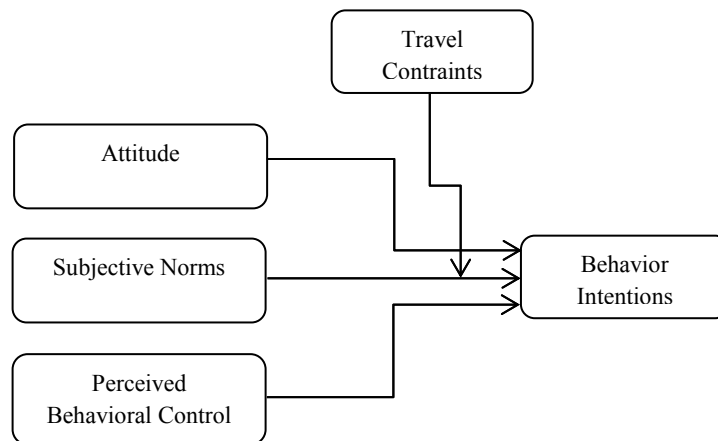


Figure 1. Research Model

Hypothesis Development

Theory of Planned Behavior is also used in studies of changes in attitudes and behaviors that tend to focus attention. Environmental attitudes and behavioral intentions on each variable and every behavior that is responsible for the environment becomes a response to completing a survey rather than experience (Lee, Moscardo, & Lee, 2008). Beliefs about possible behavioral consequences (behavioral beliefs) are expected to govern attitudes toward behavior. The relationship between attitude and behavioral intentions in this study had a significant positive effect. The hypothesis was:

H1 Attitude positively influence behavioural intention

Anticipated influence contributes significantly to the prediction of intention when the intention to do an action, and expected influence is evaluated in connection with evading the conduct. It can also be foretold that accumulation of subjective norms regarding avoidance of behavior also increases prediction of intention to conduct behavior (Ajzen & Sheikh, 2013). The relationship between Subjective Norm and Behavioral Intentions in this study had a significant positive effect. Our hypothesis was:

H2 Subjective norm positively influences behavioral intention

According to TPB, the more positive the attitude of people regarding behavior and the greater the control of perceived behavior, the more similar that people will intend to do that behavior (Sheeran, Tra, Finlay, & Norman, 2002). The influence is often done in the context of planned behavior theory (Ajzen, 2013) where as an assumption of the adequacy of the theory, information items in the form of trust are the basis in TPB. The relationship between involvement with behavioral intention in this study had a significant positive effect. Thus, we hypothesized:

H3 Perceived behavioural control positively influences behavioral intention

Principles about the potentials and behavior of others are presumed to control subjective norms; and beliefs about factors that facilitate or inhibit are presumed to regulate the control of perceived behavior. Perceived constraints or transitional barriers have been considered as predictors of travel behavior or transition of intentions (Park, Hsieh, Lee, & Lee, 2017). These travel constraints limit the journey that continues causing the inability to start traveling, which leads to negative effects on the travel experience. The higher the level of travel constraints experienced by a person, the less likely that person will travel (Hung & Petrick, 2012). Our hypothesis was:

H4 Travel constraint negatively moderates the correlation between subjective norm and behavioral intention

Research Method

Data Collection Method

An online survey was conducted using convenience sampling technique with some monetary exchange in return. We collected 178 valid responses from the survey.

Research Instrument

Items used to measure the variables in the study were adapted from (Park, Hsieh, & Lee, 2017) with some adjustments to suit the research context. A five-Likert scale measurement is used in all items

Data Analysis

We performed regression analysis to measure the correlation of variables in hypothesis 1-3, while a moderated regression analysis (MRA) was run to test hypothesis 4.

Findings and Discussion

Respondent Profile

Table 1 summarizes the respondents' characteristics.

Table 1 Summary of Respondent Profile

	Item	N	%
Gender	M	76	26,9

	F	102	36
Age	<20	52	18,4
	21-30	101	35,7
	31-40	19	6,7
	41-50	3	1,1
	>50	3	1,1
Occupation	High school students	11	3,9
	Students	98	34,6
	Professional	4	1,4
	Employee	29	10,2
	Self-employed	16	5,7
	Others	20	7,1

There were more female respondents than male respondents and almost all of the respondents in this study were in the range of young age and were a student. We tested the validity and reliability of the measurement units we summarized in Table 2 and Table 3.

Table 2 Summary of Indikator Variable

Measurement	Items	R
Attitude (Park, Hsieh, & Lee, 2017)	X1.1 For me, traveling by train is good	0,733
	X1.2 For me, traveling by train is very valuable	0,883
	X1.3 For me, traveling by train is fun	0,764
	X1.4 For me, traveling by train is beneficial	0,785
	X1.5 For me, traveling by train is interesting	0,843
Subject Norm (Park, Hsieh, & Lee, 2017)	X2.1 I will travel by train because it is popular with friends or family	0,897
	X2.2 I will travel by train because my friends or family have talked a lot about it	0,940
	X2.3 I will travel by train because it has been recommended by a friend or family	0,893
Perceived Behavior Control (Park, Hsieh, & Lee, 2017)	X3.1 I feel nothing is preventing me from traveling by train during this transition if I want to	0,700
	X3.2 I have enough money to travel by train.	0,762
	X3.3 I have enough time to travel by train.	0,758
Travel Constraints (Park, Hsieh, & Lee, 2017)	X4.1 The application of transportation restrictions made it not reduce my interest in using train services.	0,839
	X4.2 The increase in train ticket prices due to passenger restrictions did not reduce my interest in using trains.	0,857
Behavior Intention (Park, Hsieh, & Lee, 2017)	Y1 I can save time and money when using a train.	0,827
	Y2 I would recommend a train trip to friends or family.	0,585
	Y3 I will use the train again for my next trip.	0,826

The threshold to pass the validity test is that the Pearson correlation must be greater than the R-table, where the R-table for N is 178, and K for 4 is 0.1471. The results of the above table for the nominal color were all above the R-table, which means that the data instruments used in the

study were very precise and worthy of further research. While based on the reliability test, the following results were obtained:

Table 3 Summary of Reability Analysis

<i>Cr Alpha</i>	Conclusion
0.861	Realible

Cronbach's Alpha score which was greater than 0.6 means that the research indicators are used and remain consistent if the measurements are repeated.

The analysis was performed by regression analysis of the four hypotheses, namely attitude, subjective norm, perceived behavioral control, travel constraint. A summary of our regulatory analysis was summarized in Table 4

Table 4 Summary of Regression Analysis

	Behavioural Intention				
	<i>R</i>	<i>SD</i>	<i>t-Value</i>	<i>Adjusted R²</i>	<i>B</i>
<i>Direct Effects</i>					
Attitude	0.774	3.214	16.212*	0.597	0.550
Subjective Norm	0.446	3.507	6.990*	0.213	0.348
Perceived Behavioral Control	0.538	2.350	8.477*	0.286	0.523
<i>2-way Interaction Effect</i>					
Subjective Norm x Travel Constraints	0.538	36.257	-0.652*	0.277	-0.14

*p<.05

The correlation between attitude and behavioral intention was positive and significant (t value 16.212 and p<.05) which indicated strong correlation between the variables (R = 0.774) which indicated that Hypothesis 1 is accepted. The second regression analysis to test the correlation between subjective norm and behavioral intention is performed resulting in positive correlation of the variables with moderate strength (t value 6.990 and p<.05, R = 0.446) which assumed that hypothesis 2 is supported. The third analysis was run to test the correlation between perceived behavioral control which resulted in relatively moderate positive correlation with behavioral intention (t value 8.477 and p<.05, R = 0.446) and showed that hypothesis 3 is supported. In order to test the interaction between the moderating variable travel constraint with independent variable subjective norm, a moderated regression analysis was performed. It was assumed that the interaction was negative which means the more travel constraint was perceived by the consumer, it would be less likely that they would intend to travel. The result showed that that there was an increase in the adjusted R² (0.277) from the score obtained in direct correlation between subjective norm and behavioral intention (R²=0.213) and negative result was obtained ($\beta = 0.14$) which indicated that a negative moderation for travel constraint which interacts with subjective norm thus hypothesis 4 is supported. We present the following summary as follows:

Table 5 Hypothesis Summary

No.	Hypothesis	Conclusion
H1	Attitude positively affects Behavioural Intention	Supported
H2	Subjective norm positively affects Behavioural Intention	Supported
H3	Perceived Behavioral Control positively affect Behavioural Control	Supported
H4	TC moderates negatively the relationship between SubNorm and behaviour intention	Supported

Conclusion and Recommendation

TPB discloses three independent conceptual factors of intention, namely attitudes toward behavior, subjective norms, and perceived behavioral control. In this study we managed to get consistent results from our model with the results of previous studies by adding a moderating variable travel constraint that provides negative interactions with subjective norms. Future research should address problems resulting in more generalization of factors such as increasing number of samples and more sophisticated analysis tools to overcome unobserved variables not addressed in the present study.

References

- Ajzen, I. (1986). Prediction of Goal-Directed Behavior : Attitudes , Intentions , and Perceived Behavioral Control, 474, 453–474.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (2013). Theory of Planned Behaviour Questionnaire. Retrieved June 10, 2020, from www.midss.ie
- Ajzen, I. (2015). Consumer attitudes and behavior : the theory of planned behavior applied to food consumption decisions. *Rivista Di Economia Agraria*, 2(AnnoLXX), 121–138. <https://doi.org/10.13128/REA-18003>
- Ajzen, I., & Sheikh, S. (2013). Action versus inaction : anticipated affect in the theory of planned behavior, 155–162. <https://doi.org/10.1111/j.1559-1816.2012.00989.x>
- Bakar, A., Yakasai, M., Jamaliah, W., & Jusoh, W. (2015). Testing the Theory of Planned Behavior in Determining Intention to Use Digital Coupon among University Students. *Procedia Economics and Finance*, 31(15), 186–193. [https://doi.org/10.1016/S2212-5671\(15\)01145-4](https://doi.org/10.1016/S2212-5671(15)01145-4)
- Chen, H., Chen, P., & Okumus, F. (2013). The relationship between travel constraints and destination image : A case study of Brunei. *Tourism Management*, 35, 198–208. <https://doi.org/10.1016/j.tourman.2012.07.004>
- Emilien, G., Weitkunat, R., & Lüdicke, F. (2017). Consumer perception of product risks and benefits. *Consumer Perception of Product Risks and Benefits*, (April), 1–596. <https://doi.org/10.1007/978-3-319-50530-5>
- Fishbein, M., & Ajzen, I. (2014). Theory-based Behavior Change Interventions : Comments on

- Hobbis. <https://doi.org/10.1177/1359105305048552>
- Hung, K., & Petrick, J. F. (2012). Testing the effects of congruity , travel constraints , and self-efficacy on travel intentions : An alternative decision-making model. *Tourism Management*, 33(4), 855–867. <https://doi.org/10.1016/j.tourman.2011.09.007>
- Lee, W. H., Moscardo, G., & Lee, W. H. (2008). Understanding the Impact of Ecotourism Resort Experiences on Tourists ' Environmental Attitudes and Behavioural Intentions Understanding the Impact of Ecotourism Resort Experiences on Tourists ' Environmental Attitudes and Behavioural, (November 2014), 37–41. <https://doi.org/10.1080/09669580508668581>
- Park, S. H., Hsieh, C., Lee, C., & Lee, C. (2017). Examining Chinese College Students ' Intention to Travel to Japan Using the Extended Theory of Planned Behavior: Testing Destination Image and the Mediating Role of Travel Constraints EXAMINING CHINESE COLLEGE STUDENTS ' INTENTION TO TRAVEL TO JAPAN USING. *Journal of Travel & Tourism Marketing*, 34(1), 113–131. <https://doi.org/10.1080/10548408.2016.1141154>
- Park, S. H., Hsieh, C. M., & Lee, C. K. (2017). Examining Chinese College Students' Intention to Travel to Japan Using the Extended Theory of Planned Behavior: Testing Destination Image and the Mediating Role of Travel Constraints. *Journal of Travel and Tourism Marketing*, 34(1), 113–131. <https://doi.org/10.1080/10548408.2016.1141154>
- Schifter, D. E., & Ajzen, I. (1985). Intention , Perceived Control , and Weight Loss : An Application of the Theory of Planned Behavior, 49(3), 843–851.
- Sheeran, P., Tra, D., Finlay, K. A., & Norman, P. (2002). Evidence that the type of person affects the strength of the perceived behavioural control – intention relationship, 253–270.
- Smith, J. R. (2007). Charitable Giving : The Effectiveness of a Revised Theory of Planned Behaviour Model in Predicting Donating Intentions and Behaviour, 386(September 2006), 363–386. <https://doi.org/10.1002/casp>
- Tanakinjal, G. H. (2012). Exploring Technical Knowledge , Perceived Risk and the Innovative Characteristics in the Adoption of Mobile Marketing, 2(8), 69–80.
- Verma, V. K., & Chandra, B. (2018). An application of theory of planned behavior to predict young Indian consumers ' green hotel visit intention. *Journal of Cleaner Production*, 172(3), 1152–1162. <https://doi.org/10.1016/j.jclepro.2017.10.047>